Technical Information

Park and Sanders Enrichment MiVeg Broth Base

Product Code : VM2185

Application:- Park and Sanders Enrichment MiVeg Broth Base is recommended for selective enumeration of thermotolerant *Campylobacter* species from food.

Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
MiVeg peptone	10.0
Yeast extract	2.0
Dextrose	1.0
Sodium chloride	5.0
Sodium biselenite	0.1
Sodium pyruvate	0.25
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Park and Sanders Enrichment MiVeg Broth Base is prepared by adding MiVeg hydrolysate and MiVeg peptone in place of Peptic digest of animal tissue and Casein enzymic hydrolysate thereby making the medium BSE/TSE risks free . Park and Sanders MiVeg Broth Base is the modification of Park and Sanders Broth Base formulated by Park and Sanders (1) and recommended by APHA (2), for selective enumeration of thermotolerant *Campylobacter* species in food and animal feed.

MiVeg hydrolysate, Miveg peptone, yeast extract supplies nitrogenous compounds, carbon, sulphur, vitamins and trace elements. Glucose act as an energy source. *Campylobacter* species are microaerophilic. Sodium pyruvate helps for aerotolerance. Sodium sulphite helps in survival of the organism in higher nitrogen atmosphere (3). Injured cells can be recovered by incubating the medium at 31 to 32^{0}C for upto 4 hours after addition of blood and Selective Supplement I (MS2104).

The resuscitation and enrichment of culture must be performed in a microaerobic environment. Subsequently, the enriched culture is supplemented with antibiotic held at 35°C - 37°C for 1 to 2 hours, and is further incubated at 42°C for additional 40 - 42 hours with agitation.

Methodology

Suspend 28.35 grams of powder media in 940 ml distilled water. Mix thoroughly and heat if necessary to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45°C and aseptically add 50 ml of sterile defibrinated lysed horse blood and reconstituted contents of Park and Sanders Selective Supplement I (MS2104). Mix well. Allow it to stand for 4 hours at 31° to 32°C. Add Park and Sanders Selective Supplement II (MS2105) and incubate for 24 hours at 37°C then at 42°C under microaerobic atmosphere for additional 40 to 42 hour with agitation at 100 rpm.

Quality Control

Physical Appearance

Beige coloured, may have slightly greenish tinge,homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Light yellow coloured, clear solution. On addition of blood, solution turns opalescent and cherry red coloured.

Reaction

Reaction of 2.84% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C.

pH Range

6.8-7.2

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 42°C for 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth
Campylobacter coli (33559)	10^2-10^3	good
Campylobacter jejuni (29428)	10^2-10^3	good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 day.

Further Reading

1. Park C.E. and Sanders G.W., 1989, Abstr. 5th International Workshop on Campylobacter Infections, Puerto Vallarta, Mexico.
2. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
3. Koidis P. and Doyle M.P., 1983, Eur. J. Clin. Microbiol., 2:384.

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